

**UTILITY PATENT APPLICATION TRANSMITTAL
(Large Entity)**

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Docket No.
INTL-0083-US (E)

Total Pages in this Submission
31

08/12/98

TO THE ASSISTANT COMMISSIONER FOR PATENTS

Box Patent Application
Washington, D.C. 20231

Transmitted herewith for filing under 35 U.S.C. 111(a) and 37 C.F.R. 1.53(b) is a new utility patent application for an invention entitled:

CONFIRMING VIDEO TRANSMISSIONS

and invented by:

RAMANATHAN RAMANATHAN

If a **CONTINUATION APPLICATION**, check appropriate box and supply the requisite information:

Continuation Divisional Continuation-in-part (CIP) of prior application No.:

Which is a:

Continuation Divisional Continuation-in-part (CIP) of prior application No.:

Which is a:

Continuation Divisional Continuation-in-part (CIP) of prior application No.:

Enclosed are:

Application Elements

1. Filing fee as calculated and transmitted as described below
 2. Specification having 12 pages and including the following:
 - a. Descriptive Title of the Invention
 - b. Cross References to Related Applications (*if applicable*)
 - c. Statement Regarding Federally-sponsored Research/Development (*if applicable*)
 - d. Reference to Microfiche Appendix (*if applicable*)
 - e. Background of the Invention
 - f. Brief Summary of the Invention
 - g. Brief Description of the Drawings (*if drawings filed*)
 - h. Detailed Description
 - i. Claim(s) as Classified Below
 - j. Abstract of the Disclosure

UTILITY PATENT APPLICATION TRANSMITTAL
(Large Entity)

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Docket No.
INTL-0083-US (P6269)

Total Pages in this Submission
31

Application Elements (Continued)

3. Drawing(s) (*when necessary as prescribed by 35 USC 113*)
 - a. Formal Number of Sheets 4
 - b. Informal Number of Sheets _____
4. Oath or Declaration
 - a. Newly executed (*original or copy*) Unexecuted
 - b. Copy from a prior application (37 CFR 1.63(d)) (*for continuation/divisional application only*)
 - c. With Power of Attorney Without Power of Attorney
 - d. **DELETION OF INVENTOR(S)**
Signed statement attached deleting inventor(s) named in the prior application,
see 37 C.F.R. 1.63(d)(2) and 1.33(b).
5. Incorporation By Reference (*usable if Box 4b is checked*)
The entire disclosure of the prior application, from which a copy of the oath or declaration is supplied under Box 4b, is considered as being part of the disclosure of the accompanying application and is hereby incorporated by reference therein.
6. Computer Program in Microfiche (*Appendix*)
7. Nucleotide and/or Amino Acid Sequence Submission (*if applicable, all must be included*)
 - a. Paper Copy
 - b. Computer Readable Copy (*identical to computer copy*)
 - c. Statement Verifying Identical Paper and Computer Readable Copy

Accompanying Application Parts

8. Assignment Papers (*cover sheet & document(s)*)
9. 37 CFR 3.73(B) Statement (*when there is an assignee*)
10. English Translation Document (*if applicable*)
11. Information Disclosure Statement/PTO-1449 Copies of IDS Citations
12. Preliminary Amendment
13. Acknowledgment postcard
14. Certificate of Mailing

First Class Express Mail (*Specify Label No.*): EL155806862US

UTILITY PATENT APPLICATION TRANSMITTAL (Large Entity)

(Only for new nonprovisional applications under 37 CFR 1.53(b))

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INTL-0083-US (P6269)

Total Pages in this Submission
31

Accompanying Application Parts (Continued)

15. Certified Copy of Priority Document(s) (*if foreign priority is claimed*)
16. Additional Enclosures (*please identify below*):

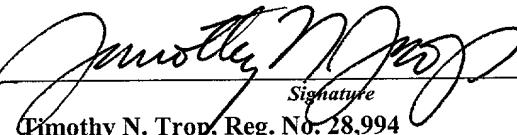
Return postcard.

Fee Calculation and Transmittal

CLAIMS AS FILED

| For | #Filed | #Allowed | #Extra | Rate | Fee |
|---|--------------------------|----------|--------|------------------|----------|
| Total Claims | 23 | - 20 = | 3 | x \$22.00 | \$66.00 |
| Indep. Claims | 3 | - 3 = | 0 | x \$82.00 | \$0.00 |
| Multiple Dependent Claims (check if applicable) | <input type="checkbox"/> | | | | \$0.00 |
| | | | | BASIC FEE | \$790.00 |
| OTHER FEE (specify purpose) | | | | | \$0.00 |
| | | | | TOTAL FILING FEE | \$856.00 |

- A check in the amount of **\$856.00** to cover the filing fee is enclosed.
- The Commissioner is hereby authorized to charge and credit Deposit Account No. **20-1504** as described below. A duplicate copy of this sheet is enclosed.
- Charge the amount of _____ as filing fee.
- Credit any overpayment.
- Charge any additional filing fees required under 37 C.F.R. 1.16 and 1.17.
- Charge the issue fee set in 37 C.F.R. 1.18 at the mailing of the Notice of Allowance, pursuant to 37 C.F.R. 1.311(b).



Signature
Timothy N. Trop, Reg. No. 28,994

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Dated: August 21, 1998

cc:

INTL-0083-US (P6269)

APPLICATION
FOR
UNITED STATES LETTERS PATENT

TITLE: CONFIRMING VIDEO TRANSMISSIONS
INVENTOR: RAMANATHAN RAMANATHAN

Express Mail No.: EL155806862US

Date: August 21, 1998

CONFIRMING VIDEO TRANSMISSIONSBACKGROUND

This invention relates generally to video transmissions such as interactive broadcasting which involves, for example, broadcasting television programming together with web content.

A broadcast encoder interleaves, or multiplexes, television programming and web content and transmits it over a transport. A given transport could have a variety of different bandwidths. For example, one transport may be an airwave broadcasting system where the web content is provided over the vertical blanking interval (VBI). Other transports of potentially greater bandwidths include cable and satellite transmissions.

A content provider may provide television programming or the web content information to a broadcast encoder which then transmits the broadcast to a plurality of users over one or more transports. The users may receive the broadcast using a computer adapted television receiver. Thus, the user station may involve a set-top computer which operates a television receiver or a conventional computer equipped with a television capture card.

Because of bandwidth limitations and the availability of multiple transport mechanisms, it may be difficult for the broadcast encoder to report when a particular broadcast has actually occurred. For example, a particular piece of web content information may be routed over available bandwidths. During busy periods, these bandwidths may be

tied up for considerable amounts of time or the available transmission bandwidths may be relatively limited.

Therefore, it may not be determinable in advance, in all cases, exactly when a particular transmission will occur,

5 how long it may take to complete the transmission, and when the transmission will be completed.

This lack of transmission certainty may be a problem for the content provider who may need to know when a transmission has been completed and how long a particular broadcast encoder takes to transmit the content provider's web content. This may be important in a variety of settings including determining whether a particular broadcaster has complied with its contractual obligations to broadcast a particular item and in ensuring that users have received information which may be critical to subsequent transmissions or subsequent activities. The content provider may not be able to proceed with other transmissions or activities until it knows that an initial transmission has been received.

20 Thus, there is a need, in connection with interactive broadcasting, for providing confirmation services.

SUMMARY

In accordance with one embodiment, a method for tracking video transmissions includes setting a first marker in the transmission data. Transmission after the first marker is tracked and reported.

BRIEF DESCRIPTION OF THE DRAWING

Figure 1 is a conceptual depiction of an interactive broadcasting system in accordance with one embodiment of the present invention;

5 Figure 2 illustrates a tracking system useful in the embodiment shown in Figure 1;

 Figure 3a is a flow diagram showing the operational software used on the broadcast encoder or the content provider shown in Figure 1; and

10 Figure 3b is a continuation of Figure 3a.

DETAILED DESCRIPTION

An interactive broadcasting system 10, shown in Figure 1, allows a broadcast encoder to multiplex web content and television programming, and to broadcast the multiplexed information to a group of users 14. The broadcast encoder 12 may receive the content from a content provider 16. Periodically, the broadcast encoder may report on broadcast progress to the content provider. In addition, the broadcast encoder may provide a log-in server 18 which allows the content provider to check on the progress of commissioned broadcasts. Software may be provided in a memory 39 on either or both of the broadcast encoder 12 and the content provider 16 to provide broadcast tracking services.

25 While the illustrative embodiments relate to broadcasts, the present invention is applicable to other video transmissions such as multicasting.. In addition, while a broadcast of television content is illustrated, non-television content may be encompassed as well.

Referring to Figure 2, software 38 may interact with a broadcast encoder application 22. The broadcast encoder application software may report tracking information received from the tracking software 38 to the log-in server 5 18 so that the tracking information may be made accessible to the content provider.

When the broadcast encoder application 22 wishes to obtain tracking services, it initiates the BeginTransmission() method 24. The broadcast encoder 10 application 22 may obtain tracking services either upon request from the content provider or upon its own initiative.

The BeginTransmission() method 24 (as well as other methods mentioned herein) may be a method available in an 15 object-oriented programming language such as COM, ActiveX, or Java. In addition, function calls or Application Program Interfaces (APIs) may be utilized with non-object oriented programming languages to implement such tasks.

When the BeginTransmission() method 24 is called, the 20 method obtains a handle 26 and returns the handle to the broadcast encoder application 22. The handle provides a pointer to a marker within the broadcast data stream.

When the broadcast encoder application 22 wishes to obtain information about broadcast details, it may call the 25 GetTransmissionDetails() method 36. The method 36 returns a variety of transmission details to the broadcast encoder application 22. It can provide information about how much information has been sent, how much information has been received, whether information was lost, whether data has 30 been cached, and other pertinent details.

The method 36 calls a count server 30 which includes a bit counter 32 and a time counter 34. The count server 30 counts transmitted bits and elapsed time. Thus, the GetTransmissionDetails() method 36 provides an indication of current transmission details as obtained from the count server 30. The GetTransmissionDetails() method 36 may be called at any time to give tracking information current as of that particular time.

The broadcast encoder application 22 uses the handle 26 it received previously to obtain the appropriate transmission details. In any given data transmission, there may be a number of markers which may be placed in the data flow either by the broadcast encoder 12 or the content provider 16. By identifying a particular handle, associated with a particular marker, the broadcast encoder application 22 receives the particular tracking information, associated with a particular marker, which is desired.

The broadcast encoder application can also call the EndTransmission() method 28. The method 28 communicates with count server 30 and completes a given tracking service associated with a particular marker. Thus, when the EndTransmission() method is called, the transmission details are provided up to that instance of time when the method 28 was called, and the marker is deactivated by terminating its associated handle.

In some instances, a particular marker may be passed to a plurality of data transmission streams which may be broadcast over different channels. In some cases, it may be desirable to know how much information has been transmitted by a group of broadcast streams, for example, associated

with a particular content provider. By using the same marker in each of the streams, the GetTransmissionDetails() method 36 may be invoked to provide cumulative information about the data flow over the group of streams, referred to
5 as a session.

Since the marker is not associated with the data flow directly, the use of the marker can be extended to measure any event occurring in the system at any level of granularity. Random events that may happen in the system
10 may be monitored using markers which exist within the system as independent entities. As a marker is enabled, it becomes a measurement of an event which may be used to confirm, measure and log necessary information related to that event.

Markers can be provided at any level or granularity of
15 the data transmission. For example, a data transmission may include a number of files, and markers may be associated with each of those files as well as with the overall broadcast that may include a plurality of files. Thus,
20 information may be provided about the transmission of any one of the files and with respect to the overall transmission of files in the broadcast as well as any sub-group of files.

Initially, the MeasureTransmission software 38 awaits a request to measure data which may come from the broadcast encoder application, as indicated in diamond 40 in Figure
25 3A. Upon receipt of such a request, the system calls the BeginTransmission() method which provides a handle or pointer for the application to access a particular marker, as indicated in blocks 42 and 44. Once a marker has been
30 inserted and a handle has been provided, the transmission

details may be cumulated (block 46) by the count server 30, shown in Figure 2. When the GetTransmissionDetails() method is invoked, as indicated in diamond 48, the current details are obtained and a report may be provided to a log-in server 18, as indicated in blocks 50 and 52.

When the EndTransmission() method is called, as indicated in diamond 54, the appropriate handle is used as indicated in block 56 (Figure 3B). As a result, the transmission details may be obtained and reported as indicated in blocks 58 and 60. Thereafter, the handle is terminated, as indicated in block 62.

While the present invention has been described with respect to a limited number of embodiments, those skilled in the art will appreciate numerous modifications and variations. It is intended that the appended claims cover all such modifications and variations as fall within the true spirit and scope of the present invention.

What is claimed is:

- 1 1. A method for tracking video transmissions
2 comprising:
3 setting a first marker in the video transmission;
4 tracking the transmission after said first marker; and
5 reporting the transmission.
6
- 1 2. The method of claim 1 including receiving web
2 content transmissions and accompanying television broadcasts
3 from a content provider.
- 1 3. The method of claim 2 including receiving a web
2 content broadcast with the first marker inserted within the
3 broadcast, combining the web content broadcast with a
4 television broadcast and transmitting the combined
5 broadcast.
- 1 4. The method of claim 2 including receiving
2 broadcast content from a content provider, combining the
3 broadcast content with television programming at a broadcast
4 encoder and inserting the first marker at the broadcast
5 encoder.
- 1 5. The method of claim 1 including invoking a method
2 which provides a handle to said first marker.

1 6. The method of claim 5 including invoking a method
2 which obtains current transmission details using said
3 handle.

1 7. The method of claim 6 including providing a second
2 marker and associating said second marker with a second
3 handle.

1 8. The method of claim 7 including calling a method
2 which provides transmission details and terminates the
3 handle.

1 9. The method of claim 7 including allowing said
2 first and second markers to be accessed separately using
3 separate handles so that transmission details associated
4 with different portions of a transmission can be obtained.

1 10. The method of claim 1 including providing a log-in
2 server, reporting a transmission to said log-in server and
3 allowing a third party to access said log-in server to
4 receive transmission reporting.

1 11. The method of claim 1 including providing an on-
2 going count of bits transmitted and time elapsed from the
3 point in time when the first marker is transmitted.

1 12. A transmission system comprising:
2 an encoder that combines different transmissions;
3 a device that sets a first marker in the transmission;
4 and
5 a counter that tracks the transmission from the point
6 where the first marker was inserted.

1 13. The system of claim 12 including a content
2 provider and a broadcast encoder coupled to said content
3 provider.

1 14. The system of claim 13 wherein said device is part
2 of the said encoder.

1 15. The system of claim 13 wherein said device is part
2 of said content provider.

1 16. An article comprising a medium for storing
2 instructions that cause a computer to:
3 set a first marker in a transmission;
4 track the transmission after said first marker; and
5 report the transmission.

1 17. The article of claim 16 including instructions
2 that cause the computer to receive web content transmissions
3 and accompanying television broadcasts from a content
4 provider.

1 18. The article of claim 17 including instructions
2 that cause the computer to receive a web content broadcast
3 with the first marker inserted within the broadcast data,
4 combine the web content broadcast with a television
5 broadcast and transmit the combined broadcast.

1 19. The article of claim 16 including instructions
2 that cause a computer to call a method which provides a
3 handle to said first marker.

1 20. The article of claim 19 including instructions
2 that cause a computer to call a method which obtains current
3 transmission details using said handle.

1 21. The article of claim 20 including instructions
2 that cause a computer to provide a second marker and
3 associate said second marker with a second handle.

1 22. The article of claim 21 including instructions
2 that cause a computer to call a method which provides
3 transmission details and terminates the handle.

1 23. The article of claim 21 including instructions
2 that cause a computer to allow said first and second markers
3 to be accessed separately using separate handles so that
4 transmission details associated with different portions of a
5 data transmission can be obtained.

CONFIRMING VIDEO TRANSMISSIONS

ABSTRACT OF THE DISCLOSURE

In an interactive broadcasting system, television programming may be broadcast with interleaved web content information. The progress in broadcasting the web content information over one or more transports and over one or more channels within those transports, may be monitored to provide a time based indication of what content has been broadcast. In one embodiment, markers may be inserted into the data transmission flow and a method may be utilized to associate a handle with a particular marker. A method may be called which obtains the handle and another method may be utilized to invoke the handle to obtain current information about broadcast transmissions. This information may be used within a broadcast encoder or may be provided to a content provider, for example, through a log-in server.

2016 RELEASE UNDER E.O. 14176

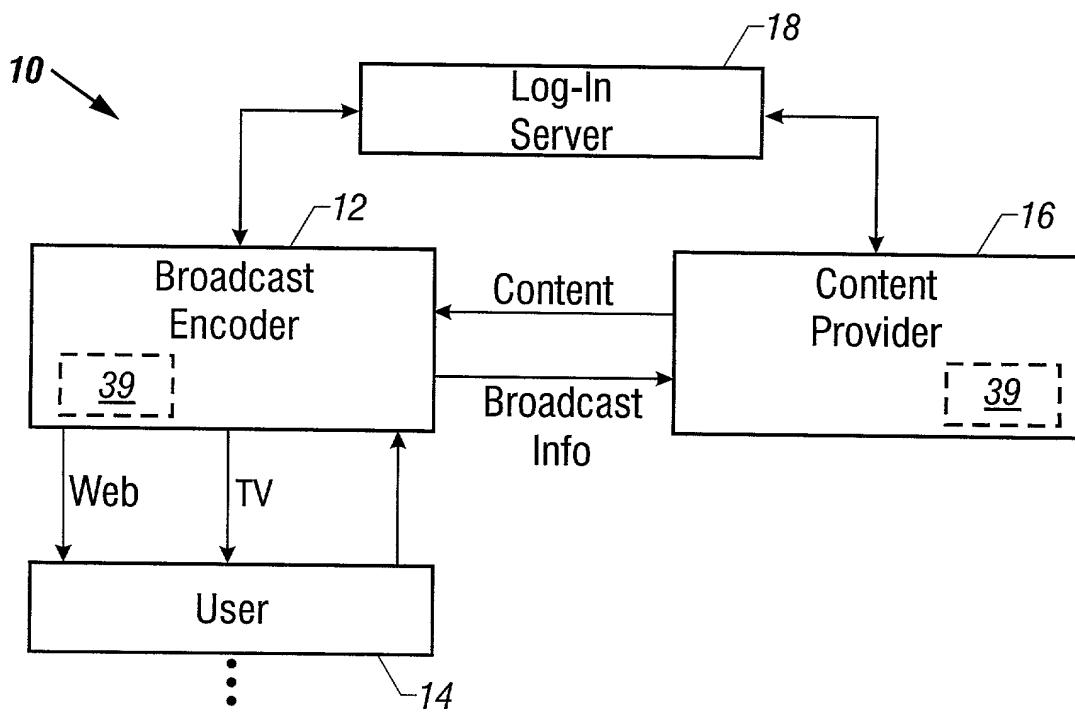


FIG. 1

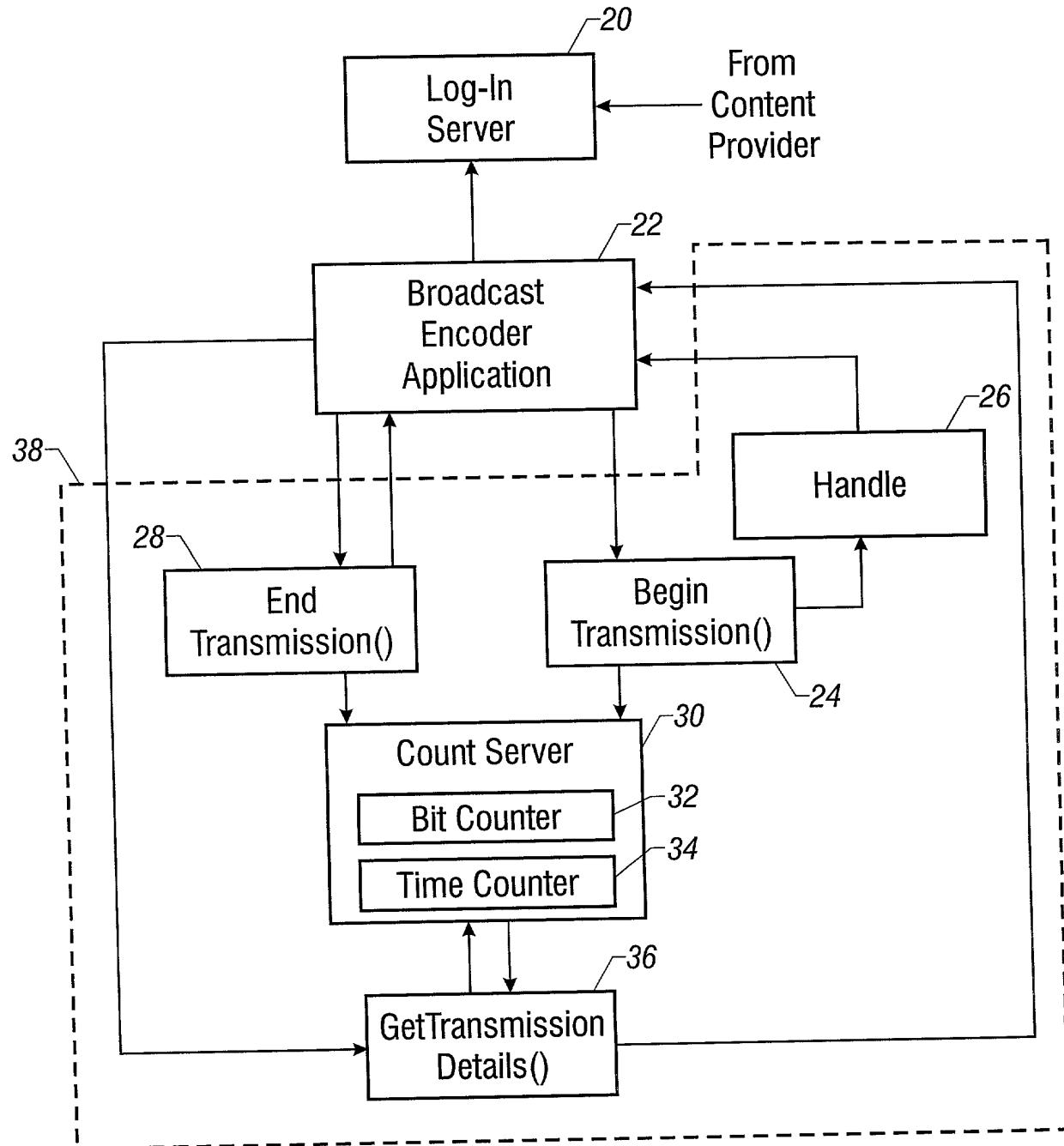


FIG. 2

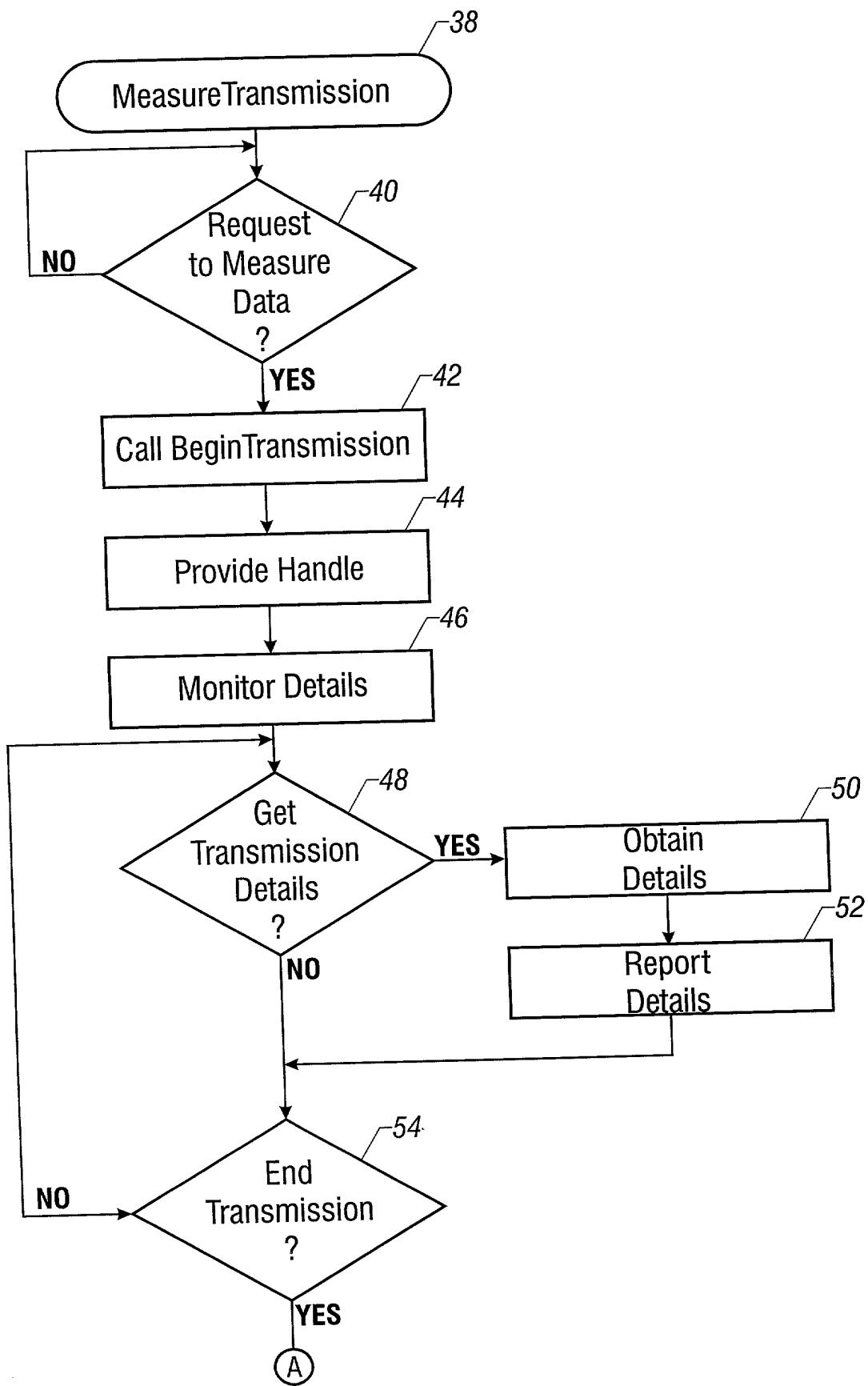


FIG. 3A

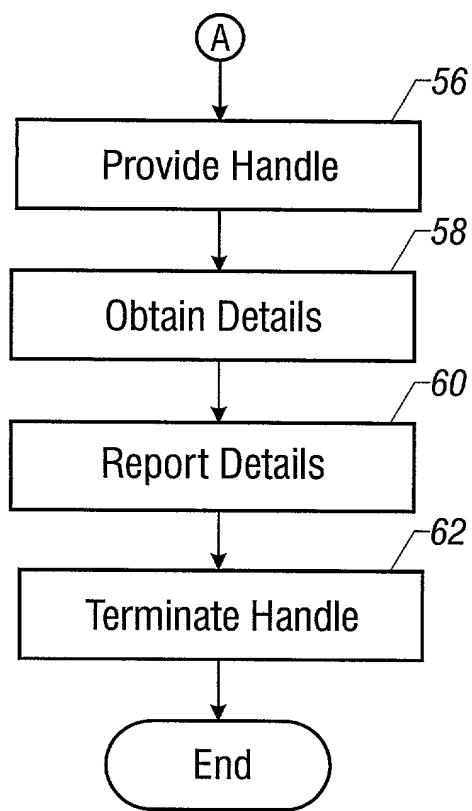


FIG. 3B

DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below, next to my name.

I believe I am the original, first, and sole inventor (if only one name is listed below) or an original, first, and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

CONFIRMING VIDEO TRANSMISSIONS

the specification of which

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| |
| |
| |
| |

is attached hereto.

was filed on _____ As _____
 United States Application Number _____
 or PCT International Application Number _____
 and was amended on _____
 (if applicable)

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claim(s), as amended by any amendment referred to above. I do not know and do not believe that the claimed invention was ever known or used in the United States of America before my invention thereof, or patented or described in any printed publication in any country before my invention thereof or more than one year prior to this application, that the same was not in public use or on sale in the United States of America more than one year prior to this application, and that the invention has not been patented or made the subject of an inventor's certificate issued before the date of this application in any country foreign to the United States of America on an application filed by me or my legal representatives or assigns more than twelve months (for a utility patent application) or six months (for a design patent application) prior to this application.

I acknowledge the duty to disclose all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, Section 119(a)-(d), of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

| Prior Foreign Application(s): | | | Priority Claimed | |
|-------------------------------|-----------|------------------------|------------------|----|
| Number | (Country) | (Day/Month/Year Filed) | Yes | No |
| Number | (Country) | (Day/Month/Year Filed) | Yes | No |
| Number | (Country) | (Day/Month/Year Filed) | Yes | No |

I hereby claim the benefit under title 35, United States Code, Section 119(e) of the United States provisional application(s) listed below:

| | |
|----------------------|---------------|
| (Application Number) | (Filing Date) |
| (Application Number) | (Filing Date) |

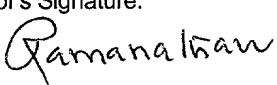
I hereby claim the benefit under Title 35, United States Code, Section 120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, Section 112, I acknowledge the duty to disclose all information known to me to be material to patentability as defined in Title 37, Code of Federal regulations, Section 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application:

| | | |
|----------------------|-------------|---------------------------------------|
| (Application Number) | Filing Date | (Status-patented, pending, abandoned) |
| (Application Number) | Filing Date | (Status-patented, pending, abandoned) |

I hereby appoint Timothy N. Trop, Reg. No. 28,994; Fred G. Pruner, Jr., Reg. No. 40,779, Dan C. Hu, 40,025; Coe F. Miles, Reg. No. 38,559, my patent attorneys, of TROP, PRUNER, HU & MILES, P.C., with offices located at 8550 Katy Freeway, Ste. 128, Houston, TX 77024, telephone (713) 468-8880, and Joseph R. Bond, Reg. No. 36,458; Richard C. Calderwood, Reg. No. 35,468; Sean Fitzgerald, Reg. No. 32,027; David J. Kaplan, Reg. No. 41,105; Leo V. Novakoski, Reg. No. 37,198; Naomi Obinata, Reg. No. 39,320; Thomas C. Reynolds, Reg. No. 32,488; Steven P. Skabrat, Reg. No. 36,279; Howard A. Skaist, Reg. No. 36,008; Steven C. Stewart, Reg. No. 33,555; Raymond J. Werner, Reg. No. 34,752; and Charles K. Young, Reg. No. 39,425; my patent attorneys, of INTEL CORPORATION; with full power of substitution and revocation, to prosecute this application and to transact all business in the Patent and Trademark Office connected herewith.

Send correspondence to Timothy N. Trop, TROP, PRUNER, HU & MILES, P.C., 8550 Katy Freeway, Ste. 128, Houston, TX 77024 and direct telephone calls to: Timothy N. Trop, (713) 468-8880.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

| | |
|---|----------------|
| Full Name of Sole/First Inventor: | |
| Ramanathan Ramanathan | |
| Inventor's Signature: | Date: |
|  | Aug. 20. 1998. |
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| Post Office Address: | |
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0083 DECLARATION
INTL-0083-US (P6269)